

Tong, P.

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1652

APR 19 2000

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RAW SEQUENCE LISTING
PATENT APPLICATION US/09/291,931A

DATE: 1608/2900
TIME: 13:21:23

Input Set: I291931A.RAW

This Raw Listing contains the General Information
Section and up to first 5 pages.

ENTERED

1 <110> APPLICANT: Kretz, Keith
2 <120> TITLE OF INVENTION: NOVEL PHYTASE
3 <130> FILE REFERENCE: 09010/029003
4 <140> CURRENT APPLICATION NUMBER: US/09/291,931A
5 <141> CURRENT FILING DATE: 1999-04-13
6 <150> EARLIER APPLICATION NUMBER: 08/910,798
7 <151> EARLIER FILING DATE: 1997-08-13
8 <150> EARLIER APPLICATION NUMBER: 09/259,214
9 <151> EARLIER FILING DATE: 1999-03-01
10 <160> NUMBER OF SEQ ID NOS: 4
11 <170> SOFTWARE: FastSEQ for Windows Version 4.0
12 <210> SEQ ID NO 1
13 <211> LENGTH: 1323
14 <212> TYPE: DNA
15 <213> ORGANISM: Escherichia coli
16 <220> FEATURE:
17 <221> NAME/KEY: CDS
18 <222> LOCATION: (1)...(1320)
19 <221> NAME/KEY: misc_feature
20 <222> LOCATION: (1)...(1323)
21 <223> OTHER INFORMATION: n = A,T,C or G
22 <400> SEQUENCE: 1
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24 Met Lys Ala Ile Leu Ile Pro Phe Leu Ser Leu Leu Ile Pro Leu Thr
25 1 5 10 15
26 ccg caa tct gca ttc gct cag agt gag ccg gag ctg aag ctg gaa agt 96
27 Pro Gln Ser Ala Phe Ala Gln Ser Glu Pro Glu Leu Lys Leu Glu Ser
28 20 25 30
29 gtg gtg att gtc agt cgt cat ggt gtg cgt gct cca acc aag gcc acg 144
30 Val Val Ile Val Ser Arg His Gly Val Arg Ala Pro Thr Lys Ala Thr
31 35 40 45
32 caa ctg atg cag gat gtc acc cca gac gca tgg cca acc tgg ccg gta 192
33 Gln Leu Met Gln Asp Val Thr Pro Asp Ala Trp Pro Thr Trp Pro Val
34 50 55 60
35 aaa ctg ggt tgg ctg aca ccg cgn ggt ggt gag cta atc gcc tat ctc 240
36 Lys Leu Gly Trp Leu Thr Pro Arg Gly Gly Glu Leu Ile Ala Tyr Leu
37 65 70 75 80
38 gga cat tac caa cgc cag cgt ctg gta gcc gac gga ttg ctg gcg aaa 288
39 Gly His Tyr Gln Arg Gln Arg Leu Val Ala Asp Gly Leu Leu Ala Lys
40 85 90 95
41 aag ggc tgc ccg cag tct ggt cag gtc gcg att att gct gat gtc gac 336
42 Lys Gly Cys Pro Gln Ser Gly Gln Val Ala Ile Ile Ala Asp Val Asp
43 100 105 110
44 gag cgt acc cgt aaa aca ggc gaa gcc ttc gcc gcc ggg ctg gca cct 384

W-->OK

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RAW SEQUENCE LISTING
PATENT APPLICATION US/09/291,931A

DATE: 03/30/2000
TECH CENTER 1600/2900
TIME: 13:21:23

Input Set: I291931A.RAW

45	Glu Arg Thr Arg Lys Thr Gly Glu Ala Phe Ala Ala Gly Leu Ala Pro	
46	115 120 125	
47	gac tgt gca ata acc gta cat acc cag gca gat acg tcc agt ccc gat	432
48	Asp Cys Ala Ile Thr Val His Thr Gln Ala Asp Thr Ser Ser Pro Asp	
49	130 135 140	
50	ccg tta ttt aat cct cta aaa act ggc gtt tgc caa ctg gat aac gcg	480
51	Pro Leu Phe Asn Pro Leu Lys Thr Gly Val Cys Gln Leu Asp Asn Ala	
52	145 150 155 160	
53	aac gtg act gac gcg atc ctc agc agg gca gga ggg tca att gct gac	528
54	Asn Val Thr Asp Ala Ile Leu Ser Arg Ala Gly Gly Ser Ile Ala Asp	
55	165 170 175	
56	ttt acc ggg cat cgg caa acg gcg ttt cgc gaa ctg gaa cgg gtg ctt	576
57	Phe Thr Gly His Arg Gln Thr Ala Phe Arg Glu Leu Glu Arg Val Leu	
58	180 185 190	
59	aat ttt ccg caa tca aac ttg tgc ctt aaa cgt gag aaa cag gac gaa	624
60	Asn Phe Pro Gln Ser Asn Leu Cys Leu Lys Arg Glu Lys Gln Asp Glu	
61	195 200 205	
62	agc tgt tca tta acg cag gca tta cca tcg gaa ctc aag gtg agc gcc	672
63	Ser Cys Ser Leu Thr Gln Ala Leu Pro Ser Glu Leu Lys Val Ser Ala	
64	210 215 220	
65	gac aat gtc tca tta acc ggt gcg gta agc ctc gca tca atg ctg acg	720
66	Asp Asn Val Ser Leu Thr Gly Ala Val Ser Leu Ala Ser Met Leu Thr	
67	225 230 235 240	
68	gag ata ttt ctc ctg caa caa gca cag gga atg ccg gag ccg ggg tgg	768
69	Glu Ile Phe Leu Leu Gln Gln Ala Gln Gly Met Pro Glu Pro Gly Trp	
70	245 250 255	
71	gga agg atc acc gat tca cac cag tgg aac acc ttg cta agt ttg cat	816
72	Gly Arg Ile Thr Asp Ser His Gln Trp Asn Thr Leu Leu Ser Leu His	
73	260 265 270	
74	aac gcg caa ttt tat ttg cta caa cgc acg cca gag gtt gcc cgc agc	864
75	Asn Ala Gln Phe Tyr Leu Leu Gln Arg Thr Pro Glu Val Ala Arg Ser	
76	275 280 285	
77	cgc gcc acc ccg tta ttg gat ttg atc atg gca gcg ttg acg ccc cat	912
78	Arg Ala Thr Pro Leu Leu Asp Leu Ile Met Ala Ala Leu Thr Pro His	
79	290 295 300	
80	cca ccg caa aaa cag gcg tat ggt gtg aca tta ccc act tca gta ctg	960
81	Pro Pro Gln Lys Gln Ala Tyr Gly Val Thr Leu Pro Thr Ser Val Leu	
82	305 310 315 320	
83	ttt att gcc gga cac gat act aat ctg gca aat ctc ggc ggc gca ctg	1008
84	Phe Ile Ala Gly His Asp Thr Asn Leu Ala Asn Leu Gly Gly Ala Leu	
85	325 330 335	
86	gag ctc aac tgg acg ctt ccc ggt cag ccg gat aac acg ccg cca ggt	1056
87	Glu Leu Asn, Trp Thr Leu Pro Gly Gln Pro Asp Asn Thr Pro Pro Gly	
88	340 345 350	
89	ggt gaa ctg gtg ttt gaa cgc tgg cgt ccg cta agc gat aac agc cag	1104
90	Gly Glu Leu Val Phe Glu Arg Trp Arg Arg Leu Ser Asp Asn Ser Gln	
91	355 360 365	
92	tgg att cag gtt tcg ctg gtc ttc cag act tta cag cag atg cgt gat	1152
93	Trp Ile Gln Val Ser Leu Val Phe Gln Thr Leu Gln Gln Met Arg Asp	
94	370 375 380	

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RAW SEQUENCE LISTING
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95      aaa acg ccg ctg tca tta aat acg ccg ccc gga gag gtg aaa ctg acc      1200
96      Lys Thr Pro Leu Ser Leu Asn Thr Pro Pro Gly Glu Val Lys Leu Thr
97      385              390              395              400
98      ctg gca gga tgt gaa gag cga aat gcg cag ggc atg tgt tcg ttg gca      1248
99      Leu Ala Gly Cys Glu Glu Arg Asn Ala Gln Gly Met Cys Ser Leu Ala
100     405              410              415
101     ggt ttt acg caa atc gtg aat gaa gca cgc ata ccg gcg tgc agt ttg      1296
102     Gly Phe Thr Gln Ile Val Asn Glu Ala Arg Ile Pro Ala Cys Ser Leu
103     420              425              430
104     aga tct cat cac cat cac cat cac taa      1323
105     Arg Ser His His His His His
106     435              440
107     <210> SEQ ID NO 2
108     <211> LENGTH: 440
109     <212> TYPE: PRT
110     <213> ORGANISM: Escherichia coli
111     <400> SEQUENCE: 2
112     Met Lys Ala Ile Leu Ile Pro Phe Leu Ser Leu Leu Ile Pro Leu Thr
113     1              5              10              15
114     Pro Gln Ser Ala Phe Ala Gln Ser Glu Pro Glu Leu Lys Leu Glu Ser
115     20              25              30
116     Val Val Ile Val Ser Arg His Gly Val Arg Ala Pro Thr Lys Ala Thr
117     35              40              45
118     Gln Leu Met Gln Asp Val Thr Pro Asp Ala Trp Pro Thr Trp Pro Val
119     50              55              60
120     Lys Leu Gly Trp Leu Thr Pro Arg Gly Gly Glu Leu Ile Ala Tyr Leu
121     65              70              75              80
122     Gly His Tyr Gln Arg Gln Arg Leu Val Ala Asp Gly Leu Leu Ala Lys
123     85              90              95
124     Lys Gly Cys Pro Gln Ser Gly Gln Val Ala Ile Ile Ala Asp Val Asp
125     100             105             110
126     Glu Arg Thr Arg Lys Thr Gly Glu Ala Phe Ala Ala Gly Leu Ala Pro
127     115             120             125
128     Asp Cys Ala Ile Thr Val His Thr Gln Ala Asp Thr Ser Ser Pro Asp
129     130             135             140
130     Pro Leu Phe Asn Pro Leu Lys Thr Gly Val Cys Gln Leu Asp Asn Ala
131     145             150             155             160
132     Asn Val Thr Asp Ala Ile Leu Ser Arg Ala Gly Gly Ser Ile Ala Asp
133     165             170             175
134     Phe Thr Gly His Arg Gln Thr Ala Phe Arg Glu Leu Glu Arg Val Leu
135     180             185             190
136     Asn Phe Pro Gln Ser Asn Leu Cys Leu Lys Arg Glu Lys Gln Asp Glu
137     195             200             205
138     Ser Cys Ser Leu Thr Gln Ala Leu Pro Ser Glu Leu Lys Val Ser Ala
139     210             215             220
140     Asp Asn Val Ser Leu Thr Gly Ala Val Ser Leu Ala Ser Met Leu Thr
141     225             230             235             240
142     Glu Ile Phe Leu Leu Gln Gln Ala Gln Gly Met Pro Glu Pro Gly Trp
143     245             250             255
144     Gly Arg Ile Thr Asp Ser His Gln Trp Asn Thr Leu Leu Ser Leu His

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RAW SEQUENCE LISTING
PATENT APPLICATION US/09/291,931A

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145           260           265           270
146 Asn Ala Gln Phe Tyr Leu Leu Gln Arg Thr Pro Glu Val Ala Arg Ser
147           275           280           285
148 Arg Ala Thr Pro Leu Leu Asp Leu Ile Met Ala Ala Leu Thr Pro His
149           290           295           300
150 Pro Pro Gln Lys Gln Ala Tyr Gly Val Thr Leu Pro Thr Ser Val Leu
151           305           310           315           320
152 Phe Ile Ala Gly His Asp Thr Asn Leu Ala Asn Leu Gly Gly Ala Leu
153           325           330           335
154 Glu Leu Asn Trp Thr Leu Pro Gly Gln Pro Asp Asn Thr Pro Pro Gly
155           340           345           350
156 Gly Glu Leu Val Phe Glu Arg Trp Arg Arg Leu Ser Asp Asn Ser Gln
157           355           360           365
158 Trp Ile Gln Val Ser Leu Val Phe Gln Thr Leu Gln Gln Met Arg Asp
159           370           375           380
160 Lys Thr Pro Leu Ser Leu Asn Thr Pro Pro Gly Glu Val Lys Leu Thr
161           385           390           395           400
162 Leu Ala Gly Cys Glu Glu Arg Asn Ala Gln Gly Met Cys Ser Leu Ala
163           405           410           415
164 Gly Phe Thr Gln Ile Val Asn Glu Ala Arg Ile Pro Ala Cys Ser Leu
165           420           425           430
166 Arg Ser His His His His His His
167           435           440
168 <210> SEQ ID NO 3
169 <211> LENGTH: 49
170 <212> TYPE: DNA
171 <213> ORGANISM: Artificial Sequence
172 <220> FEATURE:
173 <223> OTHER INFORMATION: Oligonucleotide
174 <400> SEQUENCE: 3
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176 <210> SEQ ID NO 4
177 <211> LENGTH: 33
178 <212> TYPE: DNA
179 <213> ORGANISM: Artificial Sequence
180 <220> FEATURE:
181 <223> OTHER INFORMATION: Oligonucleotide
182 <400> SEQUENCE: 4
183 gtttctggat ccttacaaac tgcacgccgg tat 33

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VERIFICATION SUMMARY
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DATE: 03/30/2000

TIME: 13:21:23

Input Set: I291931A.RAW

Line ? Error/Warning

Original Text

35 W "N" or "Xaa" used: Feature required

aaa ctg ggt tgg ctg aca ccg cgn ggt ggt g